

A Study on Effectiveness of Diagnostics Practices to Reduce Specimen Labeling Error with Respect to Radiology, Cardiology and Laboratory, in One of the Leading Hospitals in Coimbatore

Dr. V. Uma¹, R. Keerthana²

¹Head of Department, ²Student,

^{1,2}Department of Hospital Administration,

^{1,2}Dr. N.G.P. Arts and Science College, Coimbatore, Tamil Nadu, India

ABSTRACT

Patient safety is an increasingly visible and important mission for attention to improving process related to patient identification and specimen labelling is a paid by accreditation and regulatory organizations because errors in Radiology, Cardiology, Laboratory areas patient safety are common and avoidable through improvement in total testing process. It helps to described things in short phase. The pre-analytical phase of laboratory, radiology, cardiology, testing important process such as Radiology Requisition Forms (RRF), Cardiology Requisition Forms (CRF), and Laboratory Requisition Forms (LRF) followed a non-compliance identification of during NABL and NABH, surveillance audit. Wrong patient s error can occurs in every aspect of patient diagnostics and treatment. The finding s are also expected to pave way for future research work.

KEYWORDS: Requisition forms, labelling machine, laboratory, radiology, and cardiology, quality indicator, labelling error

How to cite this paper: Dr. V. Uma | R. Keerthana "A Study on Effectiveness of Diagnostics Practices to Reduce Specimen Labeling Error with Respect to Radiology, Cardiology and Laboratory, in One of the Leading Hospitals in Coimbatore"

Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-4 | Issue-3, April 2020, pp.555-558,

www.ijtsrd.com/papers/ijtsrd30582.pdf



Copyright © 2020 by author(s) and International Journal of Trend in Scientific Research and Development Journal. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) (<http://creativecommons.org/licenses/by/4.0>)



1. INTRODUCTION

1.1. Definition:

Definition of labelling error is a process to identify the errors such as

- Mislabelled forms
- Partially labelled forms
- In completed labelled forms
- Illegible labelled forms
- Un labelled forms

Labelling errors is a pre analytical phase, with approximately two – thirds of error was identified as the key focus area for improvement. To address specimens that could arrive in mislabelled or unlabelled. It can be related and treated in laboratory, radiology, and cardiology.

1.2. REQUISITION FORMS

Requisition as the actual paper work, such as a form, which is provided to a clinical diagnostics laboratory, cardiology, and radiology and extra that identifies the test or tests to be performed for patient treatment.

1.3. LABELING SYSTEM:

Labelling systems on the World Wide Web present the chunks of information environments. Labelling systems are one of the major component in information architecture, and one of the first steps of an information architecture project to identify, organize and label relevant chunks of information. It includes

- A. Name of the patients
- B. Gender/ age
- C. Registration number/ UHID number
- D. Name of the doctor/ physician
- E. Date and Time

1.4. CHARACTERISE OF LABELING ERROR

Labelling system main goal is to communicate efficiently, without talking up too much space, it can be described in a short space. That is called pre- analytical phase.

Computer labelled forms

It is process which creating labelled and paste in to the requisition forms in a proper ways. It easy to access any one

and also it avoid manipulating the patient identification details.

Manual labelled forms

Definition of manual labelled forms the process of written statement of the patient detail, sometimes it can caused error because employee carelessness or crucial work

Non labelled forms

Without any details forms or unfilled statement called as non-labelled forms, it causes labelling error,

Coded forms

It is used only in laboratory diagnosis process, some special test have code number for smart identification. Doctor or physician will order for this test.

Un coded forms:

They suggestion for laboratory special the forgot t to written the code number, only diagnostic name will enter. That is called as a un coded forms.

The objectives of the study includes,

- To study the labeling errors occurred in Radiology, Cardiology, Laboratory
- To find out the reason for the labeling error
- To suggest ways to reduce the labeling error and to improve the effectiveness of diagnostic practices

2. Literature review

According to done Judy E, Brown (2011), The study provides information on the Decreasing mislabelled laboratory specimens using barcode technology and bedside printers. Mislabelling of laboratory samples has been found to be a high – risk issue in acute care hospitals. The goal of this

study was to decrease mislabelled blood specimens. In this first year after the implementation of positive patient identification system using barcode and computer technology.

Elizabeth A. Wagar. D (2008) has revealed in his study that the accurate specimen identification is critical for quality patient care improperly identified specimens can result in delayed diagnosis, additional laboratory testing, and treatment of the wrong patient for the wrong disease and sever transfusion reaction, specimen identification error has been reported to occurs.

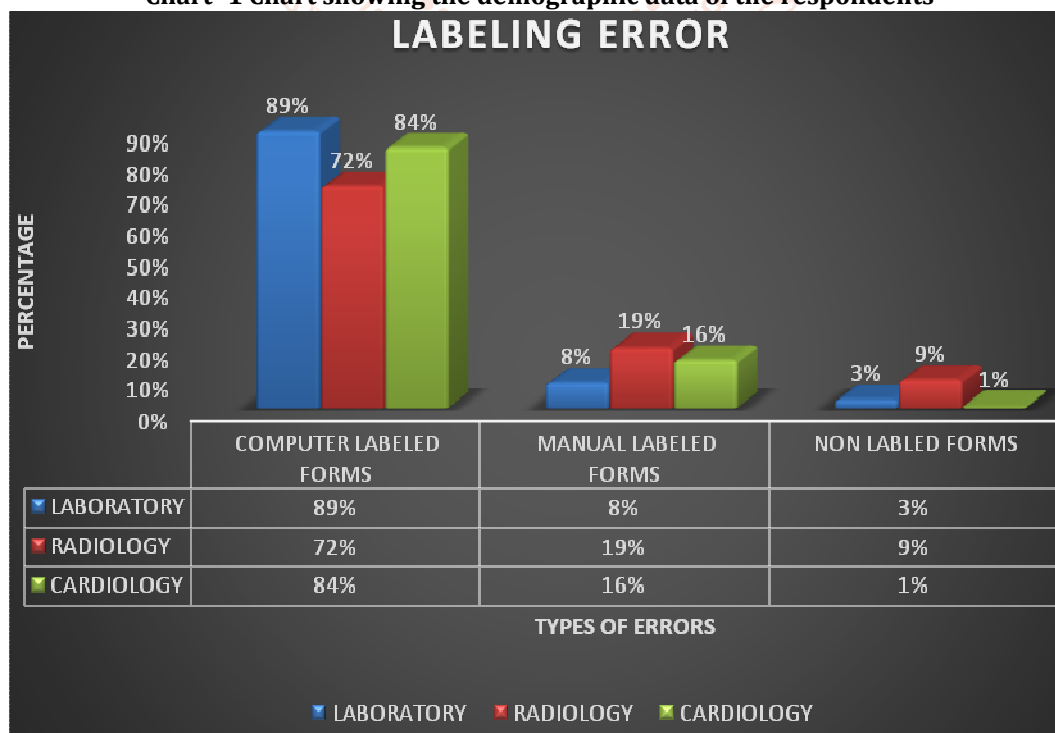
According to Bobbi Doc k(2005) , the study conducted for improving the accuracy of identification is a challenge in all hospitals. A mislabelled specimen can lead to divesting consequences for a patient. In an effort to decrease the risk of potential harm caused by lading errors, children's hospitals and clinics of Minnesota successfully implemented a zero tolerance laboratory specimen laboratory process. After months of study, charting networking, and communicating, which all stakeholders the new process to a 75% reduction in laboratory specimen labelling.

3. Methodology

The researcher has taken secondary data for the study during the period of January to February 2020. The labelling data were collected from the Laboratory, Radiology (ultrasound, CT, MRI, X-RAY), and Cardiology (ECG/TMT, ECHO) and analysed for the present study. In laboratory, total number of samples taken is **14596** and in Radiology samples taken is **1014**, cardiology **574** samples. Simple random sampling technique is used to analyse the data by using a spread sheet to find the labelling error.

4. Analysis

Chart -1 Chart showing the demographic data of the respondents

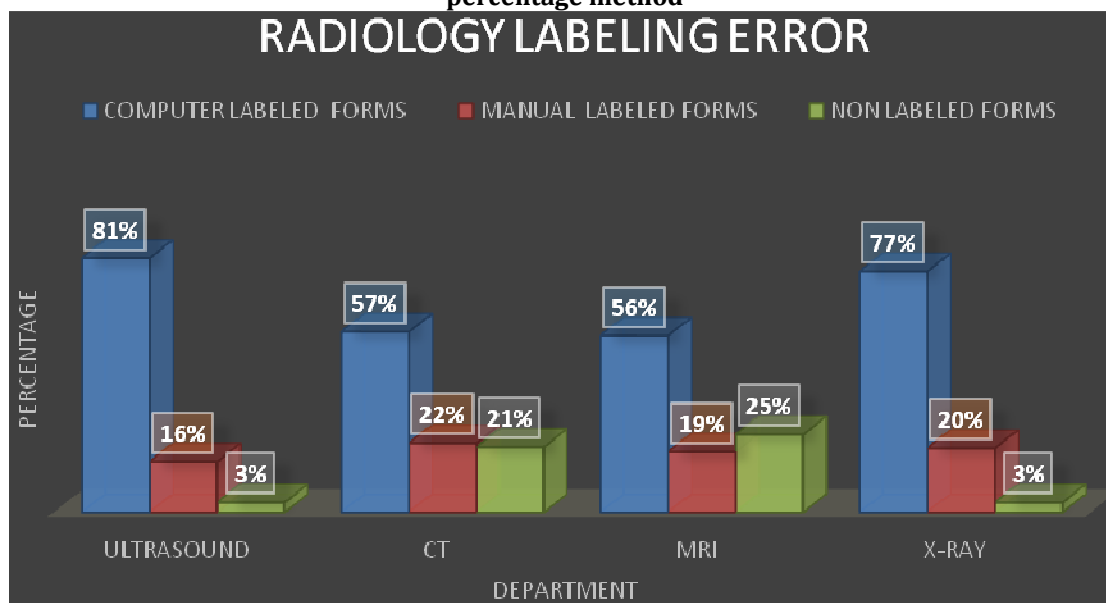


The above chart shows that three departments that include laboratory, cardiology and radiology have been included in the study. It shows the percentage details of computer labelled forms, manual labelled forms and non-labelled forms. Majority of the samples are computer labelled, few are not labelled.

Table-1 showing the Laboratory labelling error in four week analysis simple percentage analysis

| LABORATORY LABELLING ERROR | | | | |
|----------------------------|----------|-------------------------|-----------------------|-------------------|
| S.NO | DURATION | COMPUTER LABELLED FORMS | MANUAL LABELLED FORMS | NON LABELED FORMS |
| 1 | WEEK 1 | 51% | 43% | 6% |
| 2 | WEEK 2 | 75% | 13% | 12% |
| 3 | WEEK3 | 92% | 7% | 1% |
| 4 | WEEK4 | 96% | 3% | 1% |

The above table shows the four week analysis of laboratory labelling errors, in which it can be interpreted that, after continuous monitoring, there is decrease in the percentage of number of non-labelled forms.

Table-2 Showing the Radiology various department (Ultrasound, CT,MRI, X-Ray) labelling error in simple percentage method**Table-3 showing the Cardiology labelling error**

| DEPARTMENT | COMPUTER LABELLED FORMS | MANUAL LABELLED FORMS | NON LABELED FORMS |
|------------|-------------------------|-----------------------|-------------------|
| EGC/TMT | 81% | 18% | 1% |
| ECHO | 88% | 12% | 0% |

The above table depicts that the number of non-labelled forms are very less with respect to the cardiology department.

5. Major findings & recommendations

- The staffs are not able to label properly, due to lack of labelling machine.
- The staff are not aware of the codes of various tests
- There is repetition of amount paid by the patients, due to entry of wrong test code.

The recommendations include,

- Decentralisation of labelling machines for easy access can be done.
- Proper training can be given to the billing staff, with respect to coding.
- Continuous monitoring can be done to reduce the number of non-labelled forms.

6. Conclusion:

This study helps to reduce the diagnostic labelling error and it improves the quality of diagnostic procedure for the right patient, right time, right resource, and right treatment. It also helps to reduce the labelling error as an individual and also for the development of the hospital.

7. Reference

- [1] David A, Alcorn; Rhona j Barbarablond, (2017) blood bank specimen mislabelling a college of American pathologists q-probes. Study of blood bank specimen in 30 institute, arch pathal lab med;141;255-259,
- [2] Edward O'Neill, Leslie Richardson, Weber, Gina McCormack, Richard L (2009) Strict adherence to a blood bank specimen labelling policy by all clinical laboratories significantly reduces the incidence of "Wrong patient in tube". Doi; 10. 1309.
- [3] Elizabeth. A. Wagar, MD; Lorraine Tamashiro, BS; Bashar Yasin; Lee hilborne, David A, Bruckner, SCD (2006) Patient safety in clinical laboratory A longitudinal analysis of specimen identification errors. Arch pathol lab med- vol 130; 1662-1668.
- [4] Jason. s, Adelman, Jor, schecte, Mathew A, Effect of restriction of the number of concurrently open records in an electronic health record on wrong patient order, error a randomized clinical trial , doi;10:1001, jama 3698.

- [5] Karin nilson, Christina juthberg, johan soderberg (2015), Associated between work place affiliation and phlebotomy practices regarding patient identification and test request handling practices in primary healthcare centres a multilevel model approach, doi-10.1186/j2913-015-1157-9.
- [6] Mathew grissinger(2019) Oops, sorry , wrong patient; A patient verification process is needed everywhere , not just at the bed side.
- [7] Paramit sandhu, Kakali Bandvopadhav, Dennis, William hunt Thomas. (2017). Effectiveness of laboratory practices to reducing patient misidentification due to specimen labelling errors at the time of specimen collection in healthcare setting. LMBP. J. app lab med, 244-258.
- [8] Philipl. Hennaman,Donal (2010) patient identification errors are common in a simulated setting , doi: 10.1016/j. annemergmed .
- [9] Raksha K, Ram Kumar VS,(2019) Requisition forms and reports garbage in garbage out- significance of clinical data in microbial culture and antibiotic susceptions testing of surgical samples. Global journals for research analysis.
- [10] Tarik k, AlkarsB , JEANNETTE RYAN ALKASAB,(2009), Effects of computerized provider order entry system on clinical histories provided in emergency department radiology, requisition forms .elerier Inc. 194-200.

